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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,520	10/21/2003	Minoru Ishijima	100725-00107	8640

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,520

Applicant(s)

ISHIJIMA ET AL.

Examiner

Greg Binda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/25/04; 6/28/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election without traverse of Species II in the reply filed on June 7, 2005 is acknowledged.
2. Claims 1-6 & 11-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 7, 2005.

Drawings

3. The drawings are objected to because:
 - a. Reference character "C" appears in Fig. 9a but is not mentioned in the description
 - b. Reference character "R" fails to appear in Fig. 8b as described at page 24, lines 22-24.
 - c. Reference characters theta 1 and theta 2 are mentioned in the description at page 25, but do not appear in the drawings.
 - d. Reference characters 16b & 16e are each used to identify a feature and then reused to identified modifications of said features. Such usage is proscribed. See MPEP 608.02(e).
 - e. The drawings fail to show the "cylindrical housing" recited in claim 7, line 2. The housing 14 shown in Fig. 1a is not cylindrical.

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4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

6. The disclosure is objected to because at page 22, line 20, “relief 16a” should be changed to “relief 16e”.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Claim 7, lines 19 & 20 recite the limitation "the outer roller". It is not clear which of the previously recited outer rollers is "the outer roller".
- b. Claim 7 recites the limitation "the forged parting line" in lines 21 & 22. There is insufficient antecedent basis for this limitation in the claim.
- c. Claim 7 recites the limitation "the protuberance" in lines 22 & 23. There is insufficient antecedent basis for this limitation in the claim.
- d. Claim 10 recites the limitation "the setting" in line 2. There is insufficient antecedent basis for this limitation in the claim.
- e. Claim 10 recites the limitation "the tripod kit" in lines last. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 7, 9 & 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Busch et al, US 5,538,473 (Busch). Fig. 2 shows a tripod type constant velocity joint comprising: a hollow cylindrical housing 1 that is adapted to be fixed to the end of a first rotary shaft and formed with axially extending recess grooves 10 opened at one axial end and located at circumferentially trisectional positions on the inner peripheral surface; a tripod 2, 3 consisting of a boss 2 fixed to the end of a second rotary shaft 8, and end-spherical trunnion journals 3a radially projecting from circumferentially trisectional positions on the boss; and roller assemblies 4-6 each consisting of an inner roller 4 swingably fitted at the inner peripheral surface thereof on the spherical outer peripheral surface of the trunnion journal, and an outer roller 6 supported for rotation and axial movement on the outer peripheral surface of the inner roller through needle rollers 5. Figs. 2 & 7a show the outer rollers 4 are received in the recessed grooves 10 in the housing 1 and are rollable axially of the housing, each recessed groove consists of guide surfaces 9 contacting the outer peripheral surface of the outer roller 6 and subjected to loads and guide shoulder surfaces for guiding the outer roller axially of the housing, and a relief 11 is locally formed along the forged parting line of the trunnion journal, thereby receding the protuberance (see also "burr" in col. 4, line 54) of the parting line inwardly from the outer peripheral surface of the trunnion journal. Fig. 7a shows the maximum diameter of the trunnion journal 3a is not more than the inner diameter of the inner roller 4.

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11. Claims 7, 9 & 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sams et al, US 2002/0115491 (Sams). Figs. 1-8 show a tripod type constant velocity joint 10 comprising: a hollow "cylindrical" housing 12 fixed to the end of a first rotary shaft (see Fig. 6) and formed with axially extending recess grooves 16 opened at one axial end and located at circumferentially trisectional positions on the inner peripheral surface; a tripod 14 consisting of a boss 32 fixed to the end of a second rotary shaft (see Fig. 6), and end-spherical 34 trunnion journals 30 radially projecting from circumferentially trisectional positions on the boss; and roller assemblies 28 each consisting of an inner roller 48 swingably fitted at the inner peripheral surface thereof on the spherical outer peripheral surface of the trunnion journal, and an outer roller 42 supported for rotation and axial movement on the outer peripheral surface of the inner roller through needle rollers 46. Figs. 5 & 6 show the outer rollers 42 are received in the recessed grooves 16 in the housing 12 and are rollable axially of the housing, each recessed groove consists of guide surfaces 18, 20 contacting the outer peripheral surface of the outer roller 42 and subjected to loads and guide shoulder surfaces 26 for guiding the outer roller axially of the housing. Fig. 4 shows a relief 36 is locally formed along the forged parting line of the trunnion journal 30, thereby receding the protuberance of the parting line inwardly from the outer peripheral surface of the trunnion journal. Fig. 6 shows the maximum diameter of the trunnion journal 30 is not more than the inner diameter of the inner roller 48.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Busch and Sams in view of Kudo et al, US 6454,655 (Kudo). Busch and Sams each show all the limitations of the claim except the outer diameter of the boss of the tripod at one axial end thereof being more heavily chamfered. In Fig. 50, Kudo shows the outer diameter of the boss of a tripod at one axial end thereof being more heavily chamfered than the other end. In col. 16, lines 19-25, Kudo teaches making the boss of the tripod more heavily chamfered at one end in order to make it possible to smoothly assemble a roller assembly on the trunnion of the tripod. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tripod type constant velocity joint of any one of Busch and Sams by making the boss of the tripod more heavily chamfered at one end in order to make it possible to smoothly assemble the roller assembly on the trunnion of the tripod as taught by Kudo.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kumagai shows an housing 10 of a tripod joint fixed to a rotary shaft 18 in the same manner the housing in Busch would be fixed to a first rotary shaft.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Binda
Primary Examiner
Art Unit 3679